CONCERNING ADAPTIVE CREATIVITY:
A polemic on accuracy and meaning in the use of new technology for art

A note on intention:
I intend this as a hypothesis which I am trying out, although I suspect these ideas are not original to me. I started this discussion with a question about what you all think about this subject. I suspect that my ideas are not big news to you. But, I know I responded with some strong conviction about certain ideas. Please don't take these as absolutes, as though I am dictating the only way of being creative. Those of you who have heard me talk about Morton Feldman, you know how strongly I believe in the rights (even the necessity) of an individual to be creative in a personal manner that is unaffected by history, logic, expectations, or rules; in other words, the right to be as irrational as a dream. I do not intend to dictate absolutes here.[1] I am attempting to find my perspective relating to new media. I certainly don't want to squash anyone's creativity. I hope to provide guidelines for making more meaningful, less novel art with new technologies. However, keep in mind that this is all coming from someone who has spent the last two years writing papers to a conference about "novel interfaces," so perhaps you shouldn't take it too seriously.

Object and Process

Few inclinations are more significant for an artist than discerning between a finished artistic product and the process that created it. Without this ability, how could an artist learn by viewing the work of masters?

The creative individual confronts a confounding predicament: while a Beethoven sonata is surely art, writing the exact same sonata again is not, at least not in the same sense or magnitude.[2] This is for several reasons, a major one being that rewriting his sonata leaves no room for personal creative input. If we wish to build upon his work or ideas, we must somehow step back from his finished product and loosen its boundaries to make room for ourselves.[3]

To be able to discuss this *stepping back*, I suggest we define two general aspects that exist both in art and in life, which I will call **process** and **object**. In art, the **object** is the finished work – a painting, a written composition (or, perhaps, its performance), a poem.[4] Conversely, a **process** includes the strategies, perspectives, and actions through which the object came about. This might include the concepts, techniques, or goals engaged with by the artist.[5]

These two poles are not always separable, and we will discuss later how there is a spectrum between them. For example, many 1950s works of Jackson Pollock and Willem de Kooning intended to incorporate the work's process

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1   I often default to a 20th/21st century art perspective. I know that a lot of 17th century art was made as a job or for rich patrons and was not a personal expression or emotional communication.

2   I will not accept disagreement about this point unless the other party spends the rest of his or her artistic career doing nothing but replicating the work of masters with no creative input whatsoever.

3   When learning from an artwork in another art discipline (such as a composer learning from a painting), one must step back even farther. When learning from a broader subject (such as being inspired by an aspect of life), one must step back even farther than that.

4   Music compositions are said to be "kept alive" through performance, although I would still describe a written composition as an object because in our culture it is a finished, immutable form. For example, changing the first note of *Für Elise* would be sacrilege for most of the public.

5   This differentiation between process and object can roughly be equated to John Dewey's division of *event* and *fact*: "'Event' is the aspect which comes out of, which proceeds, from a

into its finished object, either through so-called "action painting" (making the creative action the focus of the artwork) or by leaving works unfinished (mid-process).[6]

Let us look at some concrete examples of the object-process relationship.

Example 1: A Smile
A fairly tidy example of object and process in play is the emotion of happiness and resulting smile. In this case, the object is a smile. Processes tend to be multifaceted, but in this case a clear aspect of the smile's inner motivation might be the emotion of happiness, or more broadly the process of instinctively representing your emotion with your body. This example assumes a genuine (non-facetious) smile, but it is just a basic example. Other aspects of the process behind a smile might be brain and muscle activity leading to a smile, or the external factors which yielded the happiness. All aspects of the process work together to create the object. The smile (object) is also part of an ongoing process, but it is denoted here as an object because it is the outward visible result of an underlying/invisible process.

No example is simple. In most cases and especially in art, there are many layers of this process-object relationship. so here we will break down an art object into its many layers of process:

Example 2: J.S. Bach's *Cello Suites*
The object of *The Cello Suites* in our definition is the finished composition. The many aspects of the process may be laid out on a spectrum of closeness to object or closeness to process, which the composer navigates as his creative thoughts manifest themselves into the object. They are all part of the process, but I will suggest that some aspects of an artistic process can be objectified on their own.

(Note: These descriptions are not absolute and are simply one way of thinking about what components go into making Bach's brand of art).

> *(More likely to be objectified)*[7]
- Techniques specific to the genre or style (e.g. 18th century tonal counterpoint)
- Techniques specific to the instrument or art material (e.g. double-stops, tuning)
- Aspects specific to the medium (e.g. pitch range, dynamic range, temporality)
- Systematic strategies with which the artist explores his/her style (I am not a Bach expert, but an example might be his use of expanded dissonances, writing idiomatically for his instruments, and engaging in explorations of the new mean-tone temperament, along with *many* other strategies)
- Perspective with which the artist engages with his/her goals (i.e. could be emotion, inspiration)
- Goals of the art practice (e.g. spiritual, practical)
  (Broader aspects of Process that are more difficult to objectify)

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total process, whose other aspect is 'fact,' that which is done, finished (in a relative sense)" (Introduction to *The Way Beyond Art* by Alexander Dorner).

6   A better example might be performance art, which often turns the *process* into the presentable artwork. Performance art often leaves no lasting art *object*.

7   By objectified, I mean fetishized as an object, with disregard for its actual process, motive, or deeper reasoning. This is laid out somewhat later.

These are all aspects of the process, but some are further removed from the object than others. For example, a spiritual goal in art can be far from the object; the same spiritual goal could yield completely different results in different mediums in different centuries.

Conversely, a technique like 18th century tonal counterpoint leaves much less room for variation and is much closer to the object. In fact, it is also often objectified on its own. One could divide Bach's 18th century tonal counterpoint into two contrasting notions, which are also in their own object-process relationship. The object would be a rule-based harmonic system (think Music Theory 1 & 2) which is finished and complete (as hard as we try, none of us are musically contributing to the repertoire of 18th-century counterpoint). On the other hand, a fluid, process-based description of 18th-century counterpoint might be something like: "composers using their ears and interacting with cultural norms to make the most elegant music they could," or "composers exploring an emergent system of sound (because tonality and the major tonic-dominant are derived directly from overtones as we all know)" As we will see soon, the object-based view is closed and leaves little room for invention or creativity. The process-based view is a much more holistic description that includes *what was really motivating and causing the object*, and is widely applicable by contemporary composers and artists.

Some concerns about the *object*

In life and art, *objects* tend to be lauded and latched onto quite a bit more than the *processes* behind them. The *object* tends to get more attention in part because it is *more easily understood, recognized, and remembered*.[8] Think of how casual listeners of art music latch onto works like *Für Elise* or Bach's *Cello Suites*, or the names of the great Classical composers. This is a much simpler task than engaging with the process ("So Ben, have you critically evaluated the systematic strategies with which Bartok explores his style lately??").

And that is *OK*. Art objects are often made as a vessel for concentrated communication with the observer or listener.

However, artists and other creative individuals have a fundamentally different responsibility: to look past the object and learn from the process.[9] It is a necessity. To return to our original example about applying the ideas of Beethoven without rewriting Beethoven, this is the only way. Not only does a verbatim rewriting of Beethoven not involve creativity, it is most likely fundamentally inaccurate, for the following reason. An object is always the result of a process and a new composer's process is almost certainly different than Beethoven's both technically (the media available), culturally (the perspective and desires of society), and personally (the inner being of the artist). **As a creative, it is much more useful to replicate art**

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8   There is a reason that the subjects of the Old Testament outlawed idols—they can be an easy-to-comprehend but *incomplete* and *inaccurate* rendering of a much more complex entity. Examples of a more modern-day instance of this phenomenon might be the notion of celebrity, for example in its relationship to film. Hundreds or thousands of people are involved in making a film, but the film ends up attached to an array of names: [James Cameron, Tom Cruise, Jennifer Lawrence]. This could apply equally to the way we remember a handful of select artists from each era of art or music, even though each of these artists was the product of a much broader artistic community which created many more works of equal magnitude.

9   I actually believe that everyone has this responsibility when viewing art, but I am an artist so I have to recognize that others have a different point of view.

processes than to replicate art objects. The more you engage with the process, and not the object, the more room there is for you.[10]

Let me be clear that by "engage with the process," I do not mean studying counterpoint instead of listening to Beethoven, or in any way ignoring the object and its beauty. The object is the vessel through which the process is communicated. But the fact remains that the *object is not replicable as art.* So, to be creatively inspired by Beethoven and apply that inspiration in one's own contemporary art, one *must* step back from the object and apply some aspect of Beethoven's process to one's own art.

Another example may be when the question "How does one write like Bach?" arises, there are two basic options, both of which are incomplete here but which can guide us. The first is: write with the same instrumentation and in the style of 18th century counterpoint. The second is: imitate his more fundamental strategies (perhaps regarding using dissonance for expression), and engage and expand upon the musical dialogue of contemporary culture, like he did.[11] The first approach is clearly object-based, while the second is process-based. While this question is ridiculous, I think the process-based answer is significantly closer to the truth.

Process-Based Adaptive Objects

An object with an inaccurate relationship to its process is empty. To return to our original example of the smile, this would be akin to appearing to smile without actually feeling happiness. Imitating the smile (object) without actually feeling the underlying emotion is not only hollow and inaccurate, but is likely to produce a smile which is unconvincing, not actually a smile (although it may look like one), and, most importantly, lacking any discernible *meaning*.

A more accurate and meaningful act of personal expression, in the smile example, would involve engaging with its process: listening to inner emotions and rendering that emotion through a facial expression. I will call this an **adaptive object**, which in this model would be to frown if you felt sad or laugh if you felt tickled.

Example 3 (an adaptive object): Tempo markings in music.

Original Object: Allegro
Original Process: Italian composers wrote in their native language to tell a player how fast to play.

Non-Adaptive Contemporary Object: Copying the object would result in an English composer writing Allegro.
Adaptive Contemporary Object: An English composer would write "Quickly"

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10 Remixing might be mentioned as an engagement with the art object. While this is true, the creative aspect of remixing involves what you do with the object (splice, layer, collage, etc.), so it remains that this creative act (of splicing, collaging) must be guided by something (a creative process).

11 This dialogue now unequivocally involves the legacy of *musique concrete*, new media, networked media, and DSP, which is why many of us would probably argue that a new media composer is closer to being a modern-day Bach than a composer of tonal music, although who's to say!

Here I have described a model for adapting objects to better reflect the underlying process as completed by a new individual. This is for *new creations*; I am not suggesting we translate Wagner operas into English, although someone like Martin Luther might see that as a beneficial adaptation.[12]

Additional examples of adaptive and process-based creativity

Example 4: Christian Marclay

Original Object that inspired Marclay: The tape-splicing and tape manipulation of Pierre Schaeffer.
Original Processes: Schaeffer had *several,* one of which is using distribution media as an instrument.

Non-Adaptive Derivative Object: Doing tape splicing or trying to replicate tape splicing digitally.
Adaptive Derivative Object as done by Marclay in the 80s: Using popular distribution media—vinyl records and record players—as an instrument. He did this by cutting up records, gluing them back together, playing multiple records at once, and looking at the physical properties of records (letting audiences walk on them..) in the same way Schaeffer looked at the emergent physical properties of tape.

Example 5: Pablo Picasso

Original Object: His own newspaper collage paintings.
Original Process: Juxtaposition of unrelated material through collage.

Non-Adaptive Derivative Object: Making newspaper collages.
Adaptive Derivative Object: Later, Picasso juxtaposed different historical styles within a single painting. When asked why he had stopped collaging, he said (paraphrase), "I have not stopped, this and collage are the same!" In his mind, he was still collaging, but collaging historical time periods instead of newspaper clippings.

Example 6: Jackson Pollock

Original Object: Jackson Pollock's style of drip painting.
Original Process: An existential process of self-discovery using large (human-sized) canvases and intimately spreading his material in a manner guided by his unconscious.

Non-Adaptive Derivative: Dripping paint on canvas (because you think that was the point of Pollock's work)
Adaptive Derivative as done by Morton Feldman: Morton Feldman used large timeframes (similar to Pollock's large canvases), and intimately spread sonic material on them in irrational, often unformed (or strangely formed) ways, guided by his unconscious.

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12   I wonder what Martin Luther would think of Wagner....

Applications for New Technologies

When approaching new technologies for art, the distinction made in this essay between *object* and *process* becomes vital. This is the case because new technologies tend to be fundamentally different tools and therefore farther removed from the objects and techniques of previous masters.[13] A new media artist may be required to take *more steps back* from the object, down the chain of *process* to very basic tenants of inspiration, goals, and ways of approaching material, which the new artist can then pass through new materials to generate a new complete working process and accurate new media object.[14]

In the Additional Examples stated previously, I hoped to show examples of artists who used a process-based approach to create opportunities for creativity. In the case of Marclay, he created what I would describe as an *accurate* art on his turntable instrument, because he used a process-based approach which allowed him to reevaluate the original object of inspiration (Schaeffer's tape pieces) and adapt its process to his own medium, creating a new paradigm. Using a process-based approach put him in a position which *required broad creativity*[15], and resulted in a profound and and innovative vision for his medium.[16]

This sentiment often gets labeled as chasing "firsts" or "new for the sake of new," but I hope this article clarifies that this tendency satisfies neither of those labels. A central challenge for contemporary artists is applying the processes of the historic masters to create new objects. The extent to which these new objects are adaptive to contemporary technology, culture, and the personality of the artist, serves as a reflection of the new artist's ability to look past historic art *objects* and into the art *processes* behind them. It is a reflection of the artist's ability to be creative, in opposition to their satisfaction with replication of the surface of objects without the rationale which supports it. It is a reflection of the artist's ability to perceive and learn from art, and to create room for their own personal expression.

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13 I think we universally praise Pierre Schaeffer for his creativity, so this idea of reevaluating your art practice when using a new medium should not be new or revolutionary.

14 By accurate, I mean an object that is in symbiosis with, and supported by, its process. An accurate art object is one that does not contain dissonance with its process (i.e. an unfelt smile would be an inaccurate object).

15 What does it mean to splice a record?

16 What's more, he did this with a medium which is specifically designed to replicate past objects, so his artwork is already an exercise in turning objects into processes which are malleable and alive